

## SOLID WASTE ALTERNATIVE FUNDING TASK FORCE

September 13, 2010

### MEMBERS PRESENT

Mr. Curtis Binney (Chairman)  
Mr. Lindell Dorsett (via conference call)  
Mr. Dan Gorden  
Mr. Richard Grier  
Ms. Brenda Boggs  
Mr. Peter Tarby

### MEMBERS NOT PRESENT

Commr. Welton Cadwell  
Mr. Donald Taylor  
Ms. Chloe Gentry  
Mr. Sandy Minkoff, Interim County Manager

### OTHERS PRESENT

Ms. Wendy Taylor, Executive Office Manager, County Manager's Office  
Mr. Jim Stivender, Public Works Director  
Ms. Sarah Taitt, Assistant County Attorney  
Ms. Courtney Vincent, Recording Secretary

### INTRODUCTION, ESTABLISHMENT OF QUORUM, AND APPROVAL OF MINUTES

Mr. Curtis Binney, Chairman, called the meeting to order and announced that they had properly noticed the meeting and that a quorum was established. He noted that before the approval of the prior minutes, Mr. Joe Treshler from Covanta had a few comments to make in regards to those minutes from the August 23, 2010 Meeting which was held on site at Covanta.

Mr. Treshler mentioned a section on page two of the minutes, second paragraph from the bottom which read, "Mr. Joe Treshler from Covanta replied that he did not suggest in any way that the County was discouraging waste from going there, but only that the County has denied them permission to contract it themselves as well, and he opined that he has been working very well with County staff to keep the facility full." He clarified that it has been the entirety of Covanta, including all of the staff, that have been working well with the County; stressing that the relationship was not strictly between himself and the County, as the original sentence implied. He continued, noting the first sentence of the next sequential paragraph which read, "Mr. Jeff Cooper reported that they had talked with Doug McCoy, who has related that Covanta has offered to bring the County additional waste at a price that is below their base line." He said the correction for this sentence is that Mr. McCoy is from Waste Management and not Covanta, and the information in that sentence refers to Waste Management and not Covanta. He

then requested a change for the first sentence of the second paragraph on page four which read, "Mr. Joe Treshler from Covanta clarified that the turbine which was out of commission recently and which contributed to the recent backup at Covanta was due to scheduled routine maintenance and not an operating problem, and he pointed out that while the turbine was down, they did a lot of other things to make sure this contract ran well." He requested it be stated in the record that the sentence should read, "Mr. Joe Treshler from Covanta clarified that the turbine which was out of commission recently and which contributed to the recent backup at Covanta was due to scheduled routine maintenance and not an operating problem, and he pointed out that while the turbine was down, it did allow other repairs and maintenance to make sure the facility ran well for the balance of the current contract." He then referred to the next sequential paragraph on the fourth page, specifically the second, third, and fourth sentences, saying they should try to reflect for intent that a biomass facility like the waste-to-energy facility can run all day, every day of the year, unlike other renewable sources. He pointed out that the waste is fed through a feed "chute", as opposed to what had been typed in the minutes as "shoot", clarifying that the chute was an actual piece of equipment. He remarked that for the fourth sentence, which read, "He explained that the heat is recovered through the evaporator and super heater sections of the furnace, and steam goes through the turbine, which creates electricity that is sold out on to the grid to one of the investor-owned utilities," the revision should read, "he explained that the heat is recovered as high pressure steam made through the evaporator's superheated sections, and this steam goes to the utilities". He suggested that on page five, the first section of the second paragraph, which read, "Mr. Treshler commented that there might be some options in the future for that", should instead say that Mr. Treshler commented that there might be some options in the future to provide treatment for the dedicated ash and for the leachate." He requested that the second sentence of the third paragraph, which read, "He noted some facility expansions and plans for new facilities throughout the state, and he commented that many facilities were not being offered a fair price for their electricity by the utilities, resulting in some facilities selling the power directly rather than going through the utility companies," should read, "He noted some facility expansions and plans for new facilities throughout the state, and commented that many facilities were not being offered a fair price for their electricity by the utilities, resulting in some facilities using the power directly, selling it themselves, rather than going through the utility companies". He explained that they were doing this rather than selling the power wholesale and then buying it back retail, and apologized for not clarify that message during the previous meeting. Last, he requested that the last sentence of the section in the minutes which discussed the tour of the Covanta facility, which reads, "Everyone was also shown tubes which hold known quantities of gas used to ensure accuracy and to hold 'calibration gases'," needed to be clarified by saying, "Everyone was also shown the location of the continuous emissions monitoring systems and the calibration gas tanks, which hold gases of known composition used to ensure accuracy of the continuous emissions monitoring system".

Mr. Binney explained only the Solid Waste Board has the authority to make changes in the minutes for their meetings, and since Mr. Treshler's clarifications will appear in the current meeting's minutes, and he did not wish for their to be a discrepancy between the written minutes and the recording of the

meeting, they would not be authorizing any changes to the minutes for the August 23, 2010 Solid Waste Alternative Task Force meeting.

On a motion by Ms. Boggs, seconded by Mr. Grier and carried unanimously by a vote of 5-0, the Board approved the Minutes of the Solid Waste Alternative Task Force meeting of August 23, 2010.

#### PRESENTATION ON GASIFICATION OPERATIONS

Mr. Jim Stivender, Public Works Director, addressed the committee, introducing Mr. Alan Oyler, the Public Works Director for the City of Orlando, Green and Sustainability Advisor to the Mayor of the City of Orlando, and a resident of Lake County, who would be giving a PowerPoint presentation on Gasification Operations.

Mr. Oyler stated that Solid Waste Operations is a part of the City of Orlando's Public Works Department, and explained that under state law, the municipalities are responsible for collection of those items and bringing them to an appropriate disposal facility and the counties are tasked with the end disposition of the materials. He remarked the three main issues for Orlando to create a more sustainable community are water supply, transportation fuels, and energy. He expressed this discussion is about energy, renewable energy in particular, as much as it is about solid waste and gasification, specifying that the conversion of solid waste into energy has been recognized as a form of recycling by the current recycling rules passed by the State. He reported that about three or four years ago they investigated a process generically known as thermal conversion, specifically known as gasification of solid waste, with the purpose of trying to stabilize the tipping fees for Orlando in the future and to recognize that, in order to continue forward towards a sustainable community, the development of alternative power supplies would be necessary. He remarked he would first focus on power; where they get their power from, tying that in the topic of global warming, and then look at how solid waste can be used as an advantage towards solving some problems. He reported that the nation uses non-renewable resources such as coal, natural gas, and nuclear power to derive the majority of its power, noting current issues in regards to the storage and disposition of the spent nuclear fuel have caused development of nuclear energy to lag behind other forms of alternative energies. He commented that since Lake County is seeing some of the same growth that the Orlando area is the demand for power in many of the residential areas has increased. He commented on the two bar graphs on slide 7 by saying that most of those polled in 1996 did not believe current climate changes were being brought about as a result of human influence, but noted the second graph showed the shift in 2003 towards the opposite opinion. He remarked that everyone has been looking to natural gas as the way of beating the carbon dioxide issue because natural gas is the least carbon intensive fuel that is available to a power generator at this point, but there is going to be huge competition for a limited supply resulting in the trend toward drastically increased prices. He stressed, with the presentation of slide 12, that the demand and cost for energy is going to climb and conservation and renewable sources need to be a very important part of what we do to help meet that future energy requirement. He mentioned the City of Orlando collects garbage, which is currently considered a waste product that goes to the landfill where they have a huge amount of material that is brought in every day. He commented that the City of Orlando produces about 450 tons

of garbage a day and Orange County landfill receives about 3,100 tons of garbage per day. He stated that Orlando's recycling program was a voluntary recycling program that has evolved from the curbside separated collection to a once-per-week collection of mixed recyclables such as paper, plastics, glass, and cardboard all in the same container to be segregated at the Materials Recovery Facility (MRF) at the landfill with about a 45 percent participation rate with the residents.

Mr. Oyler reported that landfills have been sited by the EPA as one of the largest producers of methane gas in the United States. He described the process of gasification, starting with the garbage that comes in through a chute, gets compressed and heated to drive the liquid off, and then enters a high temperature chamber. He clarified that the example provided showed they added a little bit of oxygen to drive the temperature even higher, and that there are others who use an oxygen-starved environment. The gas is then liberated, goes to the top, is quenched with a low temperature water stream and then is run through some gas scrubbing. He reported the slag, which is predominantly metal and glass run through a different end and is hit with a water quench, and because metal and glass have different cooling temperatures, they actually fall out as separate aggregates from the slag, so you have glass fragments and metal fragments. He noted the metal is recovered through the use of magnets and it has a market value, and the glass is what becomes available then as the aggregate for concrete or asphalt. He remarked on how much power can be generated from garbage, saying the rule of thumb for gasification is one ton of garbage produces one megawatt of power and 400 megawatts per day provides power to about 12,500 homes. He mentioned it is his understanding the 400 tons Orlando produces is similar in amount to what the Astatula landfill quantities are, so the amount of power Lake County could generate would be comparable to what he was describing. He mentioned that while this technology is still emerging in the United States, places like Japan and Europe have already embraced the technology, but in the United States there are gasification facilities that are gasifying single products such as wood waste, carpet remnants, and auto fluff, and using it for coal gasification for clean coal technology.

Ms. Brenda Boggs asked if there were any gasification facilities with front-end sorting systems in operation now. Discussion ensued regarding front-end sorting systems. She then asked if when they start up the plants, if they have to use a lot more energy to get up to the burn temperature or is it comparable to what the waste-to-energy facility would use.

Mr. Oyler answered there is not a lot of difference in the energy consumed once it was started, then it becomes a self-perpetuating reaction, and part of the power that is produced at the facility is then used back in for some of the energy production and to run the facility, so you have what is called the "parasitic load", which can be as little as 15 percent and as much as 50 percent of the power. He noted that in the case of plasma gasification, which is very power intensive it might be as much as 80 percent of the power is used as parasitic load. However, he said they are not looking very hard at the plasma gasification; they are more interested in the renewable energy and recycling aspects.

Mr. Binney asked what they would use for a cold start of the plant.

Mr. Oyler responded that most plants would use natural gas for that purpose. He said that if a renewable energy portfolio is required by the State, he would enter into a power purchase agreement with the power provider, sell them the renewable energy credits, and he will get more money for the energy. He suggested Lake County would be able to make the energy available to the two power companies that serve this area: Progress Energy and Sumter Electric Cooperative (SECO). He added that if the renewable energy portfolio was passed, both of those companies would have to start looking for renewable energy sources.

Mr. Dan Gorden asked what the current tipping fee was for the City of Orlando.

Mr. Oyler answered the current tipping fee for residential was about \$35.10 per ton.

Mr. Gorden asked if any studies had been completed on what they think the tipping fee will be once the gasification facility goes in.

Mr. Oyler answered that he has seen the full spectrum on that issue, but he believed that within the next five years they will probably be in the \$40 per ton range. He continued by addressing the time line for the project, giving a final estimation of four to four and a half years from the time the project is advertised to when the doors open for business. He mentioned that the City of Orlando has a service agreement with Orange County until 2014 that commits the City's waste stream to the County's landfill; once the agreement ends he is free to get bids from other providers with lower tipping fees. He noted that if they are successful with the creation of a gasification facility, they would be one of the first in the nation and become the model for Florida and the rest of the country.

Mr. Grier asked Mr. Oyler what he needed in order to pull his project off.

Mr. Oyler said he needed Orange County to consent at least until 2014, meaning that State law right now says that he, as a municipality, can only build a resource recovery facility if he can demonstrate that he is not impacting the other customers, so he has to be able convince Orange County that, if he pulls 20 percent of his waste stream with this project, they have to agree they are not being negatively impacted. He opined their response would be they are being negatively impacted.

Mr. Grier asked if he could make it work with just Orlando's trash.

Mr. Oyler replied that with his 400 tons per day, he could site a facility on the ten acres of his waste water treatment plant and it would be economically viable because he would be the basis of them getting their funding. Then they would develop other waste streams in spot markets which would garner them additional revenue than just Orlando's garbage would bring in, and they could also gain other customers besides the City of Orlando.

Mr. Binney asked if this comes into fruition, what else might the County lose in the way of their waste stream.

Mr. Oyler responded that he is simply making the land available, and the market will determine who goes to them and who does not. The only waste the County would be losing would be Orlando's waste; the other stuff would go to the other location regardless if they have the more competitive price.

Dr. Ronald Ney, a resident of Lake County, asked if, since there was no combustion because of the lack of oxygen, the gasification process would not produce dioxins and furans such as an incinerator would.

Mr. Oyler explained that because the residual gas was not allowed a gradual cooling process, dioxins and furans would not form.

Mr. Doug McCoy from Waste Management asked what the maximum volume of waste was that could be accepted on a daily basis, in addition to the 400 tons from the city, by the plan the City of Orlando was planning to accept.

Mr. Oyler replied that it would depend on how many process lines they put in, saying that most process lines average between 150 to 300 tons per day. He opined the company would start with three units initially, two main units and one back-up unit, leaving room for possible expansion by the addition of a fourth unit.

Mr. McCoy questioned whether expansion would mean additional sorting lines or if they would need to add additional infrastructure to the gasification plant itself.

Mr. Oyler responded that the gasification units are separate units that are added as the capacity increases, and that they would most likely only need to add new units to the process to meet the daily needs, though there could be the chance if they reached a high enough volume that additions to other parts of the process would be necessary.

Mr. Binney asked if there are any other existing facilities in Florida.

Mr. Oyler said there were a handful of facilities in Europe and in Japan, and there are numerous gasification facilities in the United States that are processing single stream items and not solid waste, and this is one of the reasons this technology has been slow to develop in this country. He said in recognition of that, he has structured their procurement so that it places the burden of risk is on the company instead of the City. He noted that the contract is structured that if they are unable to meet their permit requirements after a year's worth of operation, they are required to have a demobilization bond which requires the dismantling of the equipment and taking it off site.

Mr. Gorden asked what the capital cost was for a plant like this.

Mr. Oyler said he had heard numerous amounts, the low end being \$80 million, the high end was about \$250 million, so it is capital intensive, which is why they need a long term contract.

Mr. Binney questioned if the difference between this type of process and the process that Covanta does was mainly in the end product where Covanta produces steam and gasification produces some type of gas that is burned.

Mr. Oyler answered that there were a couple of differences, the primary being in the processing. He noted that gasification is a low oxygen processing system while the incinerator uses a forced air system. He explained that Covanta is burning the waste while gasification is breaking the waste down into gaseous components. He mentioned that there is also a difference in regards to the concern of air pollution, noting there was a difference in the amount of air pollutants each process generated. He specified that Covanta was burning to produce heat which is used to heat a boiler of water to produce steam, and that gasification uses the synthesis gas to heat the boiler to create steam, or the gas could be used to turn the turbine which is a process that cannot be done with incineration because it is predominantly a boiler-steam-turbine process. He cited another difference in the end product, saying the lower temperature gasifiers will produce a carbon black material which has a good market, and the higher temperatures would create a vitrified slag, and there would be little in the way of ash.

Mr. Gorden asked if Orange County would have to take the end product of the gasification process.

Mr. Oyler clarified that Orange County would only take the vitrified slag if the company running the gasification system could not find a market for it.

Mr. Binney asked Mr. Treshler if only one ton of waste for every nine tons received actually goes to the landfill.

Mr. Treshler responded that it was about a 25 percent by weight, 10 percent by volume. He then commented that energy was lost in the rapid quench process of gasification and that they have not seen a gasification system that produced a positive energy flow. He noted that Covanta would look at the City of Orlando's RFP when it comes out, but that they have not found any viable options for gasification systems or else they would already be offering them.

Mr. Grier asked Mr. Treshler if any of the plants in Europe or Japan showed a positive energy flow.

Mr. Treshler responded that they were not aware of any long term facilities that are running on a positive energy basis. He said plasma was a great thing for vitrifying existing ash, but that he thought it was tremendous overkill for municipal solid waste. He noted that they believe gasification has potential but they are not sure it is anywhere near ready for commercial use.

Ms. Boggs asked how long the facilities that are up and running have been in operation.

Mr. Oyler answered that there was one in either Northern Germany or Denmark, he could not remember the exact location, that had been in operation for about seven years. He added that most of these facilities are mixing mixed solid waste (MSW) with other feed stock, and that it would be difficult to find a purely MSW processing facility.

Ms. Boggs asked if there were any pure MSW processing facilities in operation at all, or if the one proposed for Orlando would be the first one.

Ms. Oyler said it was his understanding there were a couple in Japan and in Europe.

Mr. John D. Ladner from CDM commented that they have worked with St. Lucy County, and the proposed contract they have is geoplamsa and is very similar to what Mr. Oyler had described, where the full responsibility lies with the private company, and they were told to work within the existing tipping fee, which is around \$40.

Mr. Grier questioned if recyclables are competing with the incinerator or gasification and would a gasification facility have difficulties operating within a range of minimum and maximum.

Mr. Oyler answered that recyclables would be competing with gasification or the incinerator depending on the market price of the recyclables and where the greatest chance for profit lies. He then noted that the company building the facility would base the size of their equipment based on the projected ranges of the incoming flow streams, mentioning that as they expand the market, they can add units to increase the processing of that facility. He commented that in regards to Covanta it is possible they had expectations of a certain sized flow stream, and so they built their facility around that expectation and that flow stream has not materialized.

Mr. Grier commented that in Covanta's case, the responsibility has been shifted to the County because Lake County has a minimum tonnage that it has to supply to Covanta every day.

Mr. Oyler responded the contract will be structured in such a way that there will be an issue if a certain amount of waste is not delivered. He added that the difference between his situation and Lake County's is that he has control over what happens with the residential waste and that he is not counting commercial waste that is not picked up in that estimated 400 tons per day. He noted that there is a lot of tonnage unaccounted for in Orlando that could go to this facility to help offset a deficit.

#### BUDGET PRESENTATION

Mr. Jim Stivender, Public Works Director, said he was going to discuss the 2011 fiscal year's proposed budget. He handed out an Environmental Utilities Organizational Chart from the ending fiscal year, and the positions that were marked in red were ones that have been eliminated for the 2011 fiscal year, which included the Public Education Specialist, and some personnel from Recycling and Collection Services. He discussed the Solid Waste Operations Division, mentioning that there was discussion about reorganizing this section, though not for this fiscal year. He described the reorganization as a way to cut back on micromanaging; consolidating like-groups together for more efficient management. He then commented on the Solid Waste Programs Division, which includes Hazardous Waste, Customer Services, Recycling, and Collection Services. He mentioned Collection Services is connected to the haulers who bring waste in, and noted they had problems with previous haulers who had created a lot of complaints, adding that they have been reconciled with the other haulers, and it has challenged them to do



customer satisfaction. He reported he had asked Jeff Cooper from the Environmental Utilities Department to perform a time study, and the results showed there were two areas, hazardous waste and the scale house, where there are not enough people to cover the hours of operation and they would have to move people around. He mentioned that there have been challenges this year with getting Recycling up and operational. In regards to Administration, he said they would have a little more structure, and would further define the responsibilities of the Financial Coordinator for Environmental Utilities. He continued by saying the size reduction of landfill space has merit, siting the 145 acres of closed landfill the County is responsible for, including the annual maintenance and long term care costs, and the 16 acres of ash landfill that has been open since 1991 when the incinerator came into operation. He also said he was interested in the \$35 and \$40 ton prices that were mentioned during Mr. Oyler's presentation.

Mr. Stivender stated the second page of his handout was the Department of Public Works, Solid Waste Division Fiscal Year 2011 Budget, which he had asked Mr. Cooper to put together for the presentation. He explained the blue line under revenues was the special assessment of \$184 per ton, and it covers the hauler contract and goes into the disposal. He added that, including the tipping fee, they can barely cover Covanta and the hauler with those two revenue sources, which is why they are relying on the general revenue fund for operations. He stressed this was supposed to be an enterprise fund, and suggested the Committee include how to eliminate the use of the general fund in their plan for 2014. He noted the \$184 per ton amount has not been raised in a few years and the cost for 39 employees, the day-to-day operations of the disposal sites, the long term care, and the services of recycling and hazardous waste are creating challenges.

Mr. Cooper explained that the expenditures towards administrative and overhead were for the funds needed to pay as an enterprise fund to the County for such things as the facilities and the services the County provides such as personnel, the County Attorney, and the County Manager, as well as \$1.1 million going towards repayment of a loan the County took out in 1993 at a 3.69 interest rate to close a landfill in Astatula and for building projects, which has three more years until it is paid off.

Mr. Stivender clarified that this payment, along with the contracts the County has with the haulers and with Covanta will end at 2014. He commented that what they needed to do was figure out how to best manage the next three years under these tight financial conditions while keeping everything efficient until they can come up with a new plan.

Ms. Boggs asked what the fourth line on the handout said, because they did not print clearly.

Ms. Stivender answered that for revenues it says "Market Recyclables".

Mr. Grier asked what percentage market recyclables is and what the amount was.

Mr. Stivender responded that it was 4.3 percent and the amount was \$942,000.

Mr. Cooper clarified that the third line under revenues, interfund transfers, was at 17.8 percent.

Mr. Binney remarked that the \$184 assessment on the ad valorem could be broken down to \$15 per month to have a person's trash hauled away; then asked how much would the County charge for an individual to dump their own trash.

Mr. Gary Debo, Solid Waste Operations Director, explained that if the person was not on the solid waste assessment, there was a \$40 per ton fee; specifying that the fee is prorated with a minimum charge of \$3, but if the person brought in a half ton they would only be charged \$20. He noted that an average residential unit will generate about 1.3 tons of waste a year.

Mr. Gorden commented that it was a very reasonable rate, and that he thought that only one city in the County charges less than that.

Mr. Stivender opined that the largest problem the Board of County Commissioners has with the fees is that they are in a lump sum, and if they were broken down into a monthly rate it would not seem that bad compared to other utility payments.

Mr. Grier asked if the residential side was being subsidized by the commercial side.

Mr. Cooper answered that it depended on how it is broken down and what you wanted to contribute costs to; adding that there was twice as much residential unincorporated garbage as commercial.

Mr. Binney commented that in one of the first meetings the Committee had, they had mentioned assessment fees, and since 2006 they have been projecting them in the \$200-plus range, but they have stayed at \$184.

Mr. Stivender remarked that economy-wise, the price of fuel is still remaining low, and they are seeing a seven to eight percent increase in revenue, so he feels comfortable going into the general fund for next year; but that is not what is happening to property taxes, which are still going down, so anything tied to the consumer and to the resident, including special assessments, are going to be affected by that.

There was discussion regarding the \$3.8 million interfund transfer, which was money transferred from the general fund into the Solid Waste fund. Mr. Binney wanted to be clear on why that money was transferred and Mr. Cooper expressed it was because it was originally set up so all County residents were paying for Solid Waste services. It was determined that over the next three to four years they would need to decide if they would be continuing to use other fund money to help pay for Solid Waste or if other fees would be adjusted to eventually have Solid Waste pay its own way, with the goal being to reduce the amount of general fund money being taken in.

Ms. Boggs asked if the Other Income line of the handout included money for energy that the County gets back.

Mr. Cooper explained that the Other Income was miscellaneous income that came from sources such as the interest received from the Tax Collector, but the energy revenue is applied to the money the County pays Covanta every month.

Ms. Boggs asked if they were receiving any grants.

Mr. Cooper said the only grant was a one-time grant from the Stimulus Fund to review greenhouse gas; otherwise there are no other grants.

#### SOLID WASTE REGIONAL REPORT

The Solid Waste Regional Report was moved to the start of the meeting on September 20, 2010 because of time constraints.

#### OTHER BUSINESS AND NEXT MEETING DATES

Mr. Binney said they had a quorum to approve the list of dates for the next meetings, which were September 20, 2010 in Board Chambers at 9 a.m., October 4, 2010 tentatively scheduled for the Ag Center at 9am; and October 18, 2010 tentatively scheduled for the Ag Center at 9 a.m. He noted that if there was a conflict for the October meetings that one could be moved to the afternoon, and they would discuss it at the meeting on the September 20, 2010. He stated subsequent meetings would be on November 1, 15, and 29, 2010, and December 13, 2010; with location to be determined and tentatively at 9am. He commented that he would be submitting the mandatory interim report of what they have accomplished to date for the Committee's review at the November 15, 2010 meeting for discussion and revisions, since the report needs to be delivered on or around the first of December. Then Ms. Wendy Taylor, Executive Office Manager, County Manager's Office, will have until November 29, 2010 to create the final document, which will be voted on at the November 29, 2010 meeting and then submitted at the Board of County Commissioner's meeting on December 7, 2010.

#### PUBLIC INPUT

There was no public input.

#### ADJOURNMENT

The meeting adjourned at 11:05 a.m.